



Malaysia

Emission standards for Malaysia are set by the Ministry of Natural Resources and Environment (see <http://www.doe.gov.my/portalv1/en/>) under the authority of the *Environmental Quality Act, 1974* (Act 127). Emission standards for industrial processes, including power generation, are covered in the *Environmental Quality (Clean Air) Regulations 2014* (P.U. (A) 151/2014), published on 4 June 2014, and is available at http://fkk.uitm.edu.my/v1/images/stories/gallery/OHSAS/peraturan-peraturan_kualiti_alam_sekeliling_udara_bersih_2014.pdf. The Regulations replace the *Environmental Quality (Clean Air) Regulations, 1978* (P.U. (A) 280/1978).

Emission limits for power generation

The following emission standards apply to new and existing power generation boilers with a total capacity of more than 10 MW_e burning solid fuels, which includes coal and biomass.

Pollutant	Capacity, MW _e	Limit value, mg/m ³ (unless otherwise stated)	Monitoring
SO ₂ (SO ₂ + SO ₃)	>10	500	continuous*
NO ₂ (NO + NO ₂)	>10	500	continuous*
CO	>10	200	continuous*
total particulate matter	>10	50	continuous*
mercury (Hg)	>10	0.03	periodic
hydrogen chloride (HCl)	>10 - <100	200	periodic
	≥100	100	periodic
hydrogen fluoride (HF)	>10 - <100	30	periodic
	≥100	15	periodic
dioxins/furans (PCDD/PCDF)	>10	0.1 ng TEQ/m ³	periodic

* averaging time for continuous monitoring is 30 mins

TEQ means toxicity equivalents in comparison to 2,3,7,8 tetrachlorinateddibenzo-para-dioxin, which is also known as 2,3,7,8 tetrachlorodibenzodioxin or 2,3,7,8 TCDD.

Reference conditions for the emission limit values are 6% of O₂ in the exhaust gas (dry basis) at 273 K and 101.3 kPa.

The plants shall have measures installed to reduce the emissions of air pollutants in accordance with the Best Available Techniques Economically Achievable determined by the Director General.

Emission limits for other fuel burning equipment

The following emission limits apply to any fuel burning equipment (including boilers) consuming ≥30 kg/h of pulverised fuel or solid fuels. Coal should have a sulphur content of less than 1 wt%.

Pollutant	Dust load emitted, kg/h	Emission limit, mg/m ³	Monitoring
total particulate matter	>0.44 – <1	150	once/year
	≥1 - <1.5	150	2 times/year
	≥1.5 – <2	150	3 times/year
	≥2 - <2.5	150	4 times/year
	≥2.5	150	continuous*
CO		1000	periodic

* averaging time for continuous monitoring is 30 mins

In the case of boilers, the thermal efficiency shall be at least 90%.

Reference conditions for the emission limit values are for dry gas at 273 K and 101.3 kPa. The CO₂ reference content is 12%.

Opacity standard

All facilities are required to meet opacity limits. Emissions are not permitted that are darker than shade No. 1 on the Ringelmann Chart, or greater than 20% opacity when measured with a transmissometer.

This paper reflects the IEA CCC understanding of the relevant legislation and is not a substitute for the official version. The IEA CCC does not guarantee the accuracy of the data included in this paper and accepts no responsibility for any consequences of their use.

UPDATED: 31 March 2016